

OIB - HU-25C Guardian 10/19/15 Science Report

Aircraft:

[HU-25A Guardian #525](#) ([See full schedule](#))

Date:

Monday, October 19, 2015

Mission:

OIB

Mission Location:

Kangerlussuaq, Greenland

Mission Summary:

Mission: Falcon Helheim-Kangerdlugssuaq (priority: high)

This mission is based on the Helheim-Kangerdlugssuaq mission last flown in Spring 2015. It has been shortened by removing all of the glacier centerlines from the area east of Sermilik fjord (including Midgard, Fenris, Glacier de France, and several others) and also the centerlines of two additional glaciers just south of Kangerdlugssuaq Glacier. Even with so many centerlines removed, the centerlines of Helheim and Kangerdlugssuaq Glaciers in this flight remain something of an experiment, because we are flying them at high altitude for the first time. Small aircraft roll angles, which are necessary to follow the sinuous centerlines, translate to large displacements of the laser and DMS swaths on the ground from high altitude (considering the long "lever arm" involved), and we are unsure of how accurately we can place the swaths on the centerline as a result. Our initial impression from real-time navigation displays today leads us to believe that we achieved fairly good coverage along these challenging science targets. Post-flight data processing over the coming weeks will answer the question more conclusively.

Weather today was almost ideal for this flight, with "severe clear" skies almost everywhere across south-central Greenland. We encountered a broken stratus deck within approximately 120 km of Kangerlussuaq, but beautiful clear skies everywhere else. We estimate successful data collection across more than 98% of the mission.

All instruments performed well today.

We conducted a ramp pass at 8000' MSL just prior to landing.

Data volumes:

DMS: 23.1 Gb

Narrow Swath ATM: 20 Gb

FLIR: 1.8 Gb

total data collection time: 3.5 hrs

Images:

Map of Falcon - Helheim-Kangerdlugssuaq



[Read more](#)

Abandoned DYE-2 radar station.



[Read more](#)

Helheim Glacier calving front



[Read more](#)

Submitted by:

John Sonntag on 10/19/15

Related Flight Report:

HU-25C Guardian 10/19/15

Flight Number:

OIB2015 Arctic Helheim-Kangerdlugussuaq

Payload Configuration:

ATM & DMS

Nav Data Collected:

No

Total Flight Time:

3.7 hours

Submitted by:

Luci Crittenden on 10/19/15

Flight Segments:

From:	BGSF	To:	BGSF
Start:	10/19/15 10:15 Z	Finish:	10/19/15 13:56 Z
Flight Time:	3.7 hours		
Log Number:	16F002	PI:	John Woods
Funding Source:	Thomas Wagner - NASA - SMD - ESD Cryosphere & International Polar Year		
Purpose of Flight:	Science		
Comments:	OIB completed the Helheim-Kangerdlugussuaq mission this morning. Turning aircraft for an afternoon sortie.		

Flight Hour Summary:

	15F005	16F002
Flight Hours Approved in SOFRS	100	
Flight Hours Previously Approved		67.4
Total Used	32.6	65.3
Total Remaining		2.1

16F002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/05/15	OIB2015 Arctic Sea Ice Central	Science	3.6	3.6	63.8
10/05/15	OIB2015 Arctic Sea Ice East	Science	3.8	7.4	60
10/06/15	OIB2015 Arctic Ice-Sat2 North	Science	4	11.4	56
10/07/15	OIB2015 Arctic Transit Thule to Kangerlussuaq	Transit	2	13.4	54
10/08/15	OIB2015 Arctic Southwest Coastal A	Science	3.8	17.2	50.2
10/08/15	OIB2015 Arctic Thomas-Jakobshavn 01	Science	3.7	20.9	46.5
10/09/15	OIB2015 Arctic Umanaq B	Science	3.9	24.8	42.6

10/13/15	OIB2015 Arctic Jakobshavn Equip Store	Science	2.9	27.7	39.7
10/13/15	OIB2015 Arctic Southeast Coastal A	Science	3.6	31.3	36.1
10/18/15	OIB2015 Arctic Southeast Coastal B	Science	4.1	35.4	32
10/19/15	OIB2015 Arctic Helheim-Kangerdlugussuaq	Science	3.7	39.1	28.3
10/19/15	OIB2015 Arctic Helheim-Kangerdlugussuaq Gap B	Science	3.9	43	24.4
10/20/15	OIB2015 Arctic Jakobshavn Mop-Up	Science	3.7	46.7	20.7
10/20/15	OIB2015 Arctic Southwest Coastal B	Science	3.7	50.4	17
10/21/15	OIB2015 Arctic Southwest Coastal C	Science	3.4	53.8	13.6
10/21/15	OIB2015 Arctic K-EGIG-Summit	Science	3.7	57.5	9.9
10/22/15	OIB2015 Arctic Mopup South	Science	2	59.5	7.9
10/22/15	OIB2015 Arctic Ferry BGSF-CYYR	Ferry	2.2	61.7	5.7
10/23/15	OIB2015 Arctic Ferry CYYR-KRIC	Ferry	3.3	65	2.4
10/23/15	OIB2015 Arctic Ferry CYYR-KRIC	Ferry	0.3	65.3	2.1

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Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
09/15/15	OIB #1	Check	2.7	2.7	97.3
09/20/15	OIB #2, 3, 4	Ferry	2.7	5.4	94.6
09/21/15	OIB #2, 3, 4	Ferry	2.3	7.7	92.3
09/21/15	OIB #2, 3, 4	Ferry	2	9.7	90.3
09/23/15	OIB2015 Arctic North Central Gap 02	Science	3.9	13.6	86.4
09/24/15	OIB2015 Arctic Northwest Coastal A	Science	3.7	17.3	82.7
09/25/15	OIB2015 Arctic Northwest Coastal B	Science	3.8	21.1	78.9
09/28/15	OIB2015 Arctic Sea Ice West	Science	3.7	24.8	75.2
09/30/15	OIB2015 Arctic North Central Gap 01	Science	3.9	28.7	71.3
09/30/15	OIB2015 Arctic Zachariae-79N	Science	3.9	32.6	67.4